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# The Correlation of Attitudes and Availability of Facilities with the Behaviors of the Community in Disposing of Household Waste in the Sago River

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## Abstract

Based on a report from Directorate General of Pollution and Environmental Damage Control of the Ministry of Environment and Forestry (KLHK), in 2015 nearly 68 percent or the majority of the water quality in 33 provinces of Indonesia were heavily polluted. The main source of river pollutants is domestic or household waste. Sanitary Office of Pekanbaru City records the waste produced by around 1.3 million residents of Pekanbaru city is 500 tons / day or 2.6 kilograms per recident everyday. The purpose of this research was to determine the factors corresponding with the behavior of the society in disposing of household waste in the Sago river. This research included into quantitative type with a *crosssectional* approach. The independent variables of this research were attitudes and availability of facilities. The population were all housewives who live around the Sago River of Sukaramai Village in Pekanbaru city, which is about 974 families. The samples were 284 people which taking them by Stratified Random Sampling Technique. The instruments used were questionnaire and observation sheet. Primary data was obtained through questionnaire and observation while secondary data was from Sukaramai village data in Pekanbaru Kota Subdistrict. Data analysis *used chi square* test with $\alpha$ = 0,05. The results showed that there was a significant correlation between attitudes and availability Facilities on people's behaviors in disposing household waste with P Value <0.05. This results will be used to design the suitable program in handling the waste in the Sago River of Pekanbaru City.

**Keywords:** waste disposal behaviorss, attitudes, availability of facilities

## 1. Introduction

Waste is a material that is not used anymore or thrown away from various sources like human or natural activities that do not have economic value. Sources of waste include household, agriculture, urban, corporate, hospital. Rapid urban population growth has an impact on increasing the amount of waste produced. According to data from the Ministry

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of Environment and Forestry (KLKH), in one day, the Indonesian community produces up to 130,000 tons of waste [1].

Sanitary Office of Pekanbaru City recorded that the waste produced by around 1.3 million residents of Pekanbaru city is 500 tons / day or 2.6 kilograms per population in one day. During 2016, recorded flooding incidents in Pekanbaru and around Riau Province occurred because of the damage of river boundary. Meanwhile, garbage dumped carelessly by millions Pekanbaru residents in the river flow made it hampered and causing flooding in Pekanbaru city [2].

Waste has become a national and global problem, not just a local one. Waste problems occured because of arising piled of them about 2-4% per year, it is not balanced with facilities and infrastructures supports that comply the technical requirements, thus, a lot of waste are not transported. Various types of Waste, like *degradable or non degradable,* will be mixed into one that causing various problems such as pollution like odor, soil or water pollutions. If the garbage is discharged into the river or on the river boundary, namely "Trash Island", the inevitable flood disaster can come everywhere.

If waste is piled up, especially plastic and glass, it will cause soil infertility [3]. River water pollution due to garbage disposal also has a negative impact on human health, especially the increase of diarrheal diseases and costs of raw water treatment for drinking increasingly [3].

In view of human behavior is a biggest cause of environmental damage like Residents' passivity to disasters. This behavior is probability influenced by several facilitation factor (education, income, knowledge, attitude) of supporting factors (availability of facilities) and driving factors (health services) [4].

Based on a preliminary survey conducted on 20 respondents on April 3, 2017 in a settlement near the Sago River watershed, Sukaramai Village, Pekanbaru City, it was found that 80 percent of respondents were reluctant to throw garbage in its place because it was a hereditary habit, they did not know the impact of throwing garbage into river and there was no a waste management system. The results of the analysis of the physical, chemical and biological parameters of the Sago river water carried out with the preliminary survey were the Sago river had been contaminated.

Around the Sago river, there were densely populated residential areas, besides that there was also a market which was a trade center in Pekanbaru city causing so much waste production, the traders did not pay attention to cleanliness, besides that some of the settlements were visible from their physical conditions, river water was murky, smelly, and filled with garbage, this condition was possibility because the behavior of

the people around the Sago river in disposing of household garbage was still not right anymore.

Referring to these conditions, the researcher conducted a research about "The Correlation of Attitudes and Availability of Facilities with the Behaviors of the Community in Disposing of Household Waste in the Sago River"

## 2. Method and Instrument

### 2.1. Method

This research included into quantitative type with analytic design through *Cross Sectional* approach. This research was carried out in Sukaramai Village which was in a settlement located around Sago River in Pekanbaru City. This research was conducted for approximately 1 year (12 months). The population in this research were all housewives who lived in the area around the Sago river, Sukaramai village of Pekanbaru city, which was 974 people. The samples were a part of population around 284 people. Data collection was carried out by collecting primary data and secondary data.

### 2.2. Instrument

In this research, the instrument used was a questionnaire for finding out data about education, income level, knowledge, attitudes and availability of facilities from residents around the Sago river and their behavior in removing household waste on the river. Respondents gave information through filling the questionnaire and then the researcher gave a scoring mark on it. The kind of questions used in questionnaire was a close-ended question system, which respondents should answer the questions by choosing one answer contained in the questionnaire. Researcher only scored on respondent's answer choice. Before distributing the questionnaire, it should be tested first for checking its validity and reliability.

## 3. Result

## 3.1. Univariate analysis

The results of univariate analysis described the independent and dependent variables. The dependent variable described below was the behaviors of the community in disposing of garbage and independent variables were facities availability and attitudes.

TABLE 1: Distribution of Respondents' Frequency.

| No | Variabel | Frequency | Percentage (%) |
|----|----------|-----------|----------------|
| | **Dependent Variables** | | |
| 1 | Waste Disposal Behaviors | | |
| | Bad | 168 | 59.2 |
| | Good | 116 | 40.8 |
| | Total | 284 | 100 |
| | **Independent Variable** | | |
| 1 | Waste Disposal Facilities | | |
| | Do not have | 150 | 52.8 |
| | Have it | 134 | 47.2 |
| | Jumlah | 284 | 100 |
| 2 | Respondents' Attitudes | | |
| | Negative | 152 | 53.5 |
| | Positive | 132 | 46.5 |
| | Total | 284 | 100 |

Based on table 1, it was found that respondents with bad Waste Disposal Behaviors were 168 (59.2%), respondents who did not have waste disposal facilities were 150 (52.8%) and respondents who were negative in disposing of garbage were 152 (53.5%).

## 3.2. Bivariate analysis

The results of bivariate analysis is for determining the relationship between independent and dependent variables as below:

Based on the results of the bivariate analysis in table 2, it can be concluded that:

1. Respondents who did not have garbage disposal facilities had bad behaviors in disposing of waste around 4.1 times compared to respondents who have the facilities to dispose of waste

2. Respondents with negative attitudes had bad behavior in disposing of trash around 1.8 times compared to respondents with positive attitudes.

TABLE 2: Bivariate Analysis.

| Variabel | Waste Disposal Behaviorss | | | | | P Value | OR (95% CI) |
|---|---|---|---|---|---|---|---|
| | Bad | | Good | | Total | | |
| | n | % | n | % | n (%) | | |
| **Facilities** | | | | | | | |
| Do not have | 112 | 74.7 | 38 | 25.3 | 150 (100) | 0.0001 | 4.105 (2.482-6.790) |
| Have it | 56 | 41.8 | 78 | 58.2 | 134 (100) | | |
| Total | 168 | 59.2 | 116 | 40.8 | 284 (100) | | |
| **Respondents' Attitudes** | | | | | | | |
| **Negative** | 100 | 65.8 | 52 | 34.2 | 152 (100) | 0.020 | 1.810 (1.122-2.920) |
| **Positive** | 68 | 51.5 | 64 | 48.5 | 132 (100) | | |
| Total | 168 | 59.2 | 116 | 40.8 | 284 (100) | | |

# 4. Discussion

## 4.1. Univariate analysis

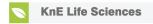### 4.1.1. Waste disposal behaviorss

From the results of this research, it was found that the respondents with bad Waste Disposal Behaviors were about 168 (59.2%). Waste management was related to the behaviors of people who produce the waste. Handling it starting from upstream will simplify the waste problem. Disenchanting the community as a waste producer to not produce large amounts of waste and also not throw away carelessly will reduce waste problems.

### 4.1.2. Facilities

From the results of this research, it was found that respondents who did not have a garbage disposal facilities were around 150 (52.8%). It was known that the majority of the surrounding community did not have a garbage disposal facility. In order waste to not endanger human health, it was necessary to regulate its disposal. Trashbin can be a place to store waste temporarily after garbage was produced, which must be present in every source or producer of waste, such as household waste [5].

### 4.1.3. Attitudes

The results of this research found that the respondents who behaved negatively in disposing of garbage as much as 152 (53.5%). From these results, it was known that most people had negative attitudes towards waste management. Attitudes are reactions or responses of someone who closed to a stimulus or object [4].

## 4.2. Bivariate analysis

### 4.2.1. The correlation of facilities and waste disposal behaviors

From the results of this research, it can be concluded that there was a correlation between the facilities and Waste Disposal Behaviors. Respondents who did not have waste disposal facilities have bad behavior in disposing of waste around 4.1 times compared to respondents who have the facilities to dispose of waste.

A theory stated that physical facilities is a factor that influences a person's mentality which is reflected in his practice and behavior. According to L.Green, one of the factors supporting a person's behavior is the availability or absence of health facilities and advices.

The research's results showed that the more complete facilities and suggestions available, the better practices and behaviors in terms of disposing of household waste. In this case, it was the availability of a closed trashbin.

### 4.2.2. The correlation of respondents' attitudes and waste disposal behaviors

From the results of the study, it can be concluded that there was a Correlation of Respondents' Attitudes and Waste Disposal Behaviors. Respondents with negative attitudes had bad behavior in disposing of trash about 1.8 times compared to respondents with a positive attitudes.

Based on the results of this research, it was known that most respondents had negative attitudes, namely the majority of people did not approve the waste management separated before processing. In addition, negative attitudes were also influenced by several factors, such as the low level of knowledge and education that encouraged people to do negative attitudes.

## 5. Conclusion

There was a correlation between the facilities and waste disposal behaviors. Respondents who did not have waste disposal facilities had bad behavior in disposing of waste around 4.1 times compared to respondents who have the facilities to dispose of waste.

There was a correlation between attitudes and waste disposal behaviors. Respondents with negative attitudes had bad behavior in disposing of trash around 1.8 times compared to respondents with positive attitudes.

## Funding

## Acknowledgement

## Conflict of Interest

The authors have no conflict of interest to declare.

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